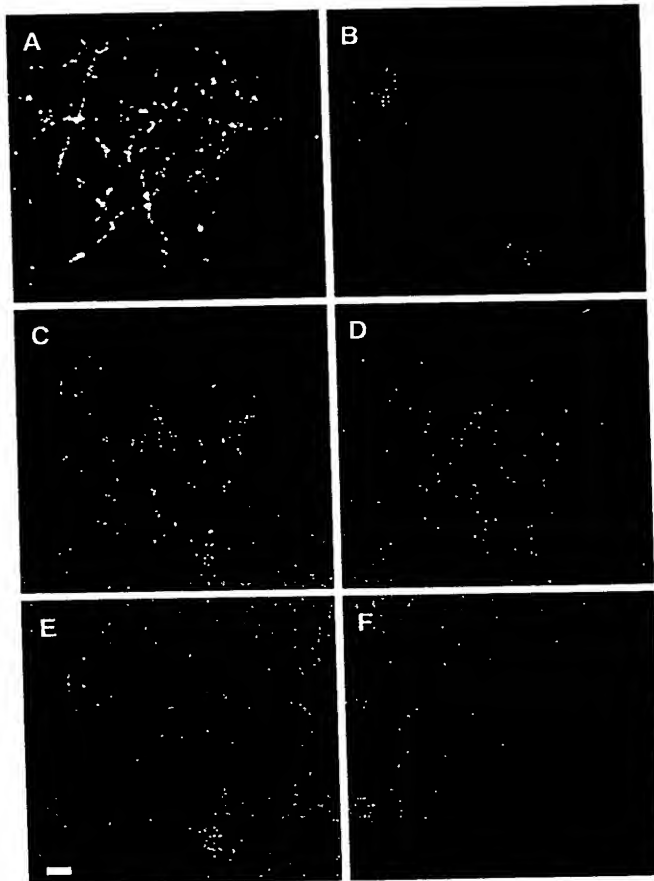


FIG. 1



FIGS. 2A-2F

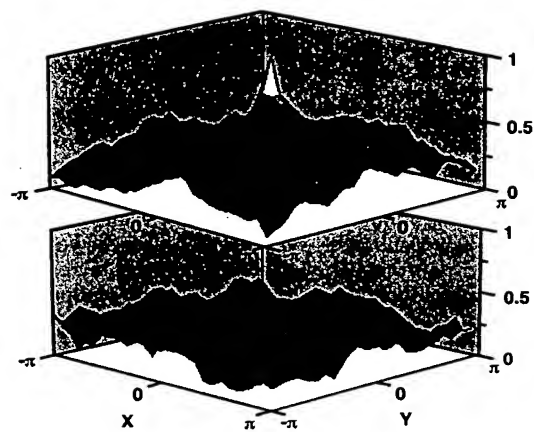


FIG. 3

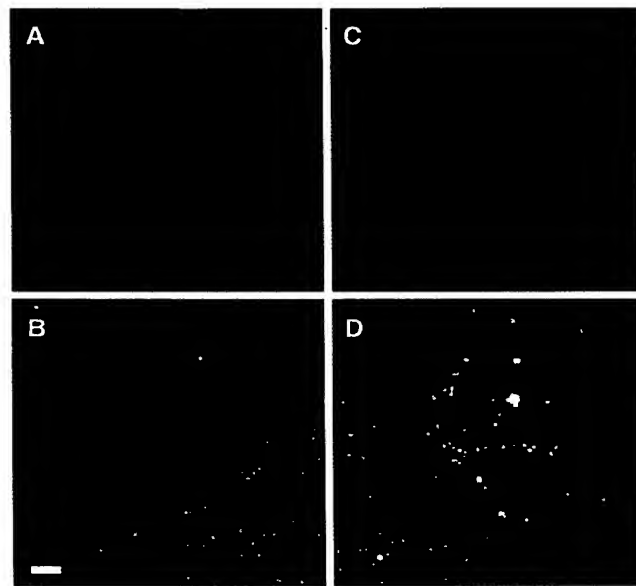


FIG. 4



GFP protein

MGKGEELFTG VVPILVELDG DVNGHKFSVS GEGEGDATYG KLTCLKFICTT GKLPVPWPTL VTTFSYGVQC
FSRYPDHMKR HDEFFKSAMPE GYVQERTIFF KDDGNYKTRA EVKFEGDTLV NRIELKGIDF KEDGNILGHK
LEYNYNSHNV YIMADKQKNG TKVNFKIRHN IEDGSVQLAD HYQNTPIGD GPVLLPDNHY LSTQSALSKD
PNEKRDHML LEFVTAAGIT HGMDLYKSG SR.

FIGURE 5

wild-type GFP

ATGGGTAAAG GAGAAGAACT TTCTACTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAAC TTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCACTACTT TCTCTTATGG TGTTC AATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGT TATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGA ACTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACTC ACACAATGTA TACATCATGG CAGACAAACA AAAGAATGGA ACCAAAGTTA
ACTTCAAAAT TAGACACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGTCCACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAGTCCGGA TCTAGATAA

FIGURE 6

1B11t

ATGAGTAAAG GAGAAGAACT TTTCAGTGGG GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAAGTTACCC TTAAATTTAT
TTGCACTACT GGAAAACTAC CTGTTCCATG GCCAACACTT GTCAGTACTT TCTCTTATGG TGTTCATGTC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA TCACCAGGTG TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGCTA
ACTTCAAAAT TAGACACAAC ATTGAAGATG GAGGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 7A

14E12t

ATGAGTAAAG GAGAAGAACT TTTCACCTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTACCC TTAAATTTAT
TTGCACTACT GGAAAACTAC CTGTTCCATG GCCAACACTT GTCACACTT TCTCTTATGG TGTTCATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAACACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATTG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAGTACA ACTATAACGA TCACGATGTG TACATCATGG CAGACAAACA AAAGAATGGT ACCAAAGCTA
ACTTTCAAGT TCGCCACAAC ATTGAAGATG GAGGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 7B

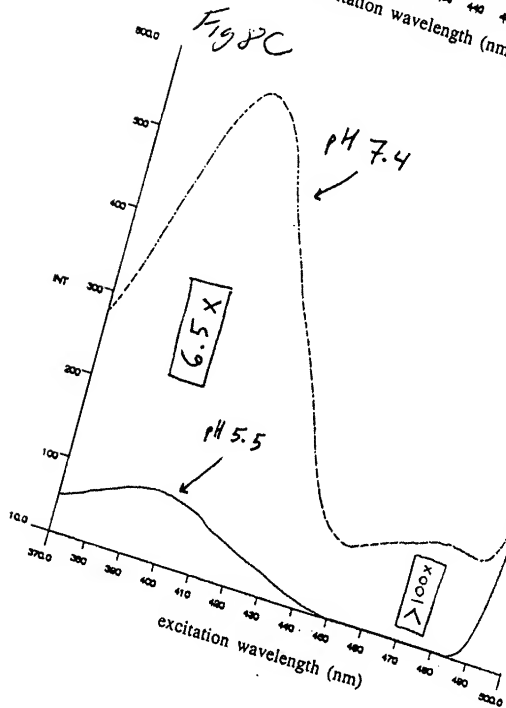
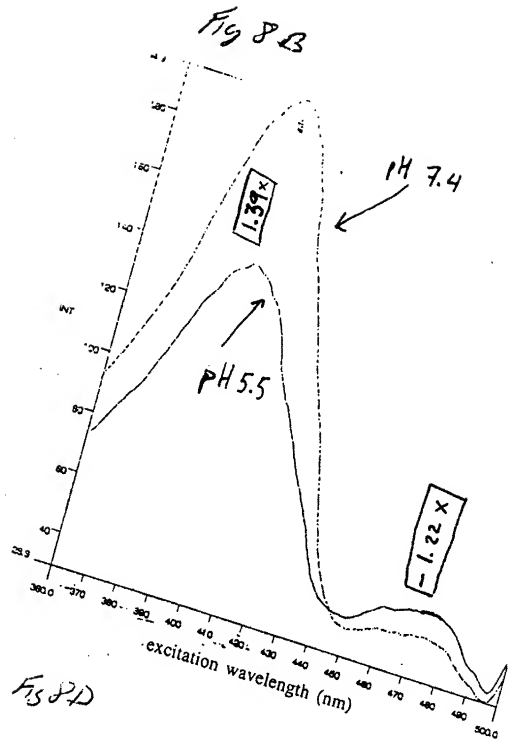
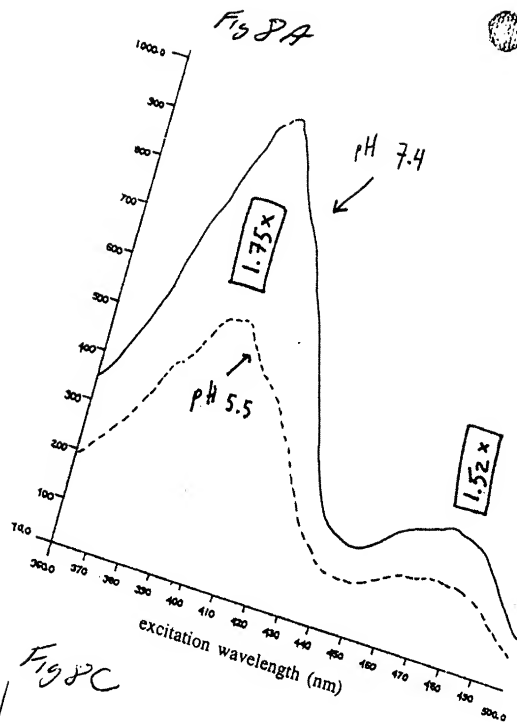
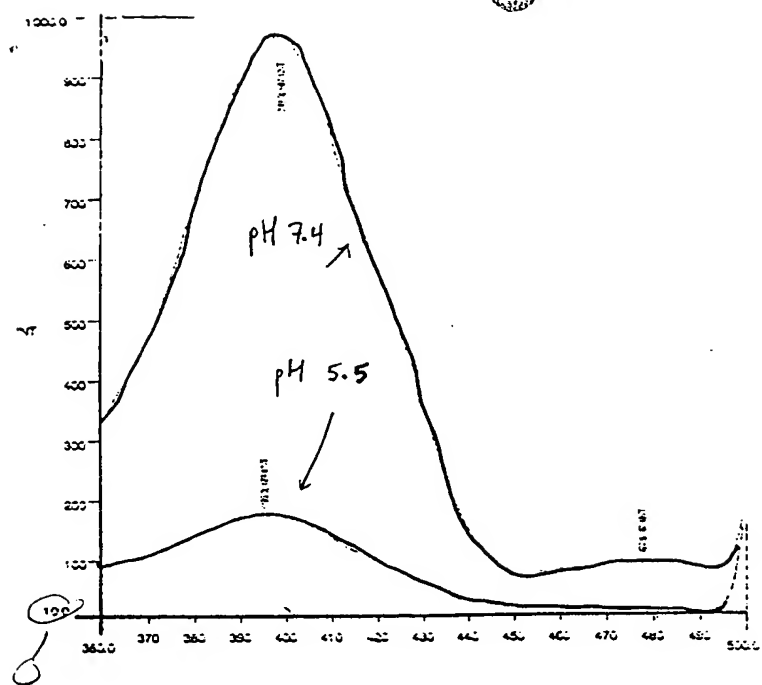
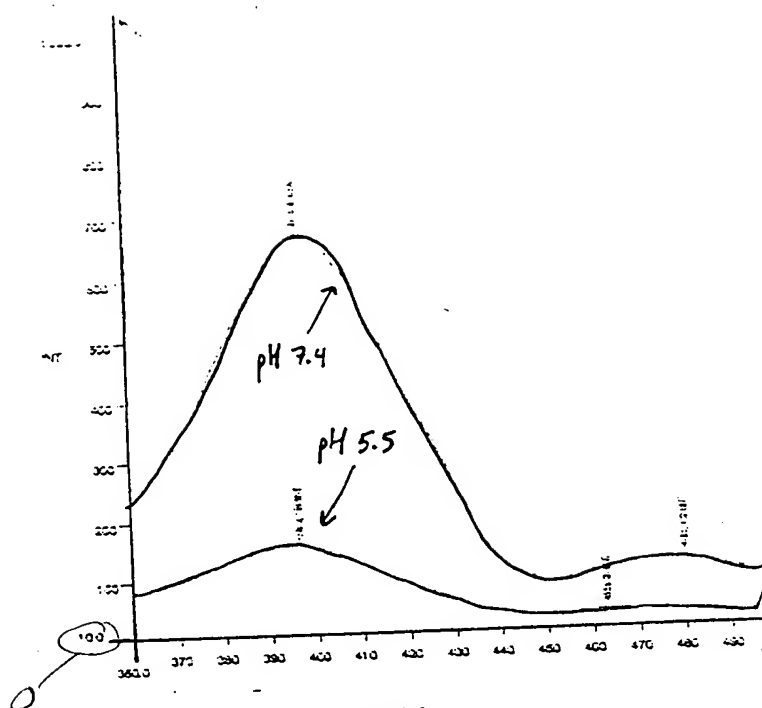


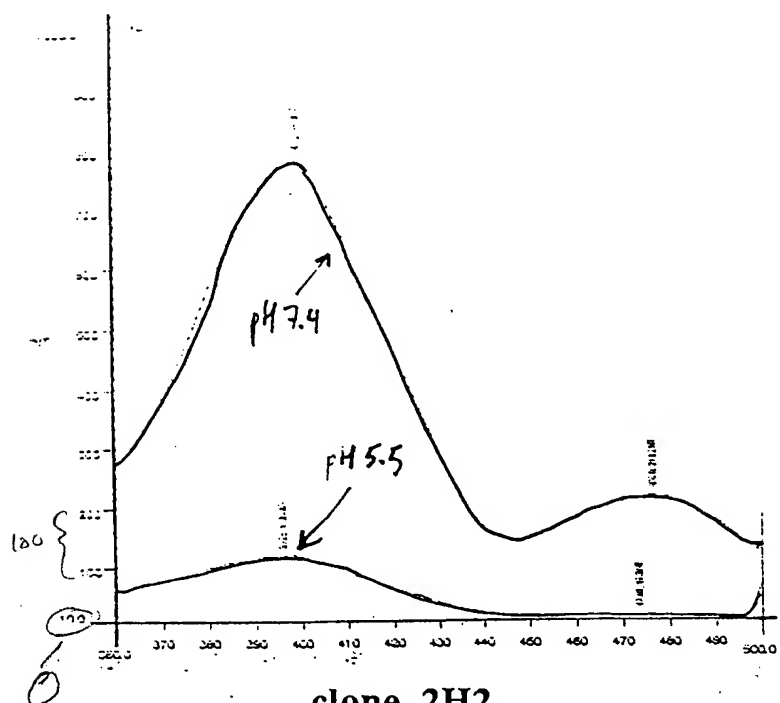
FIG. 8A-8D



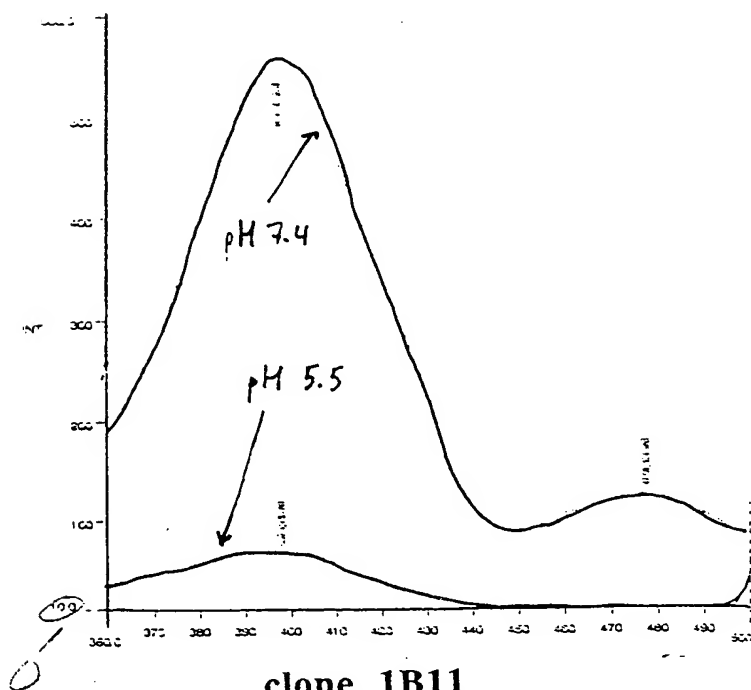
clone 1D10
Fig. 9A



clone 2F10
Fig. 9B

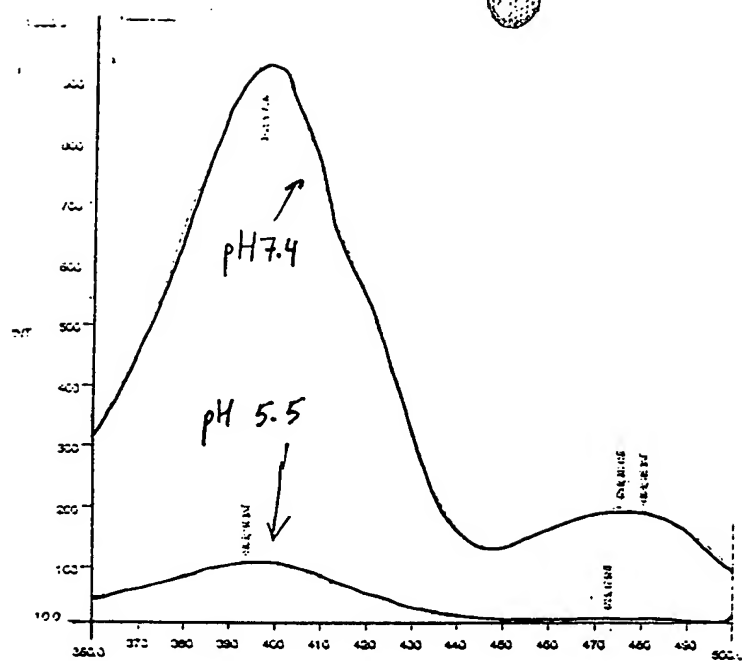


clone 2H2
Fig. 9C



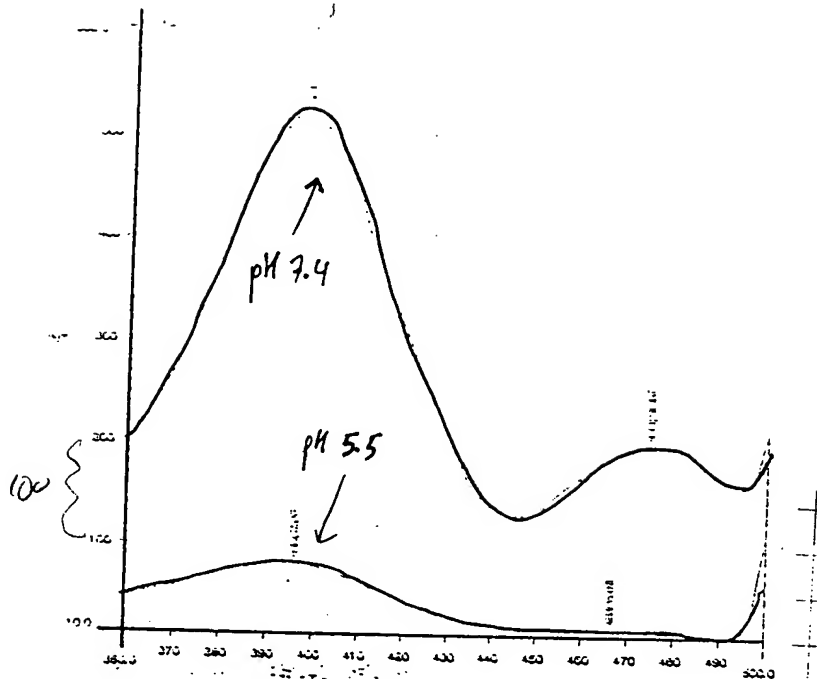
clone 1B11
Fig. 9D

FIG. 9A-9D



clone 8F6

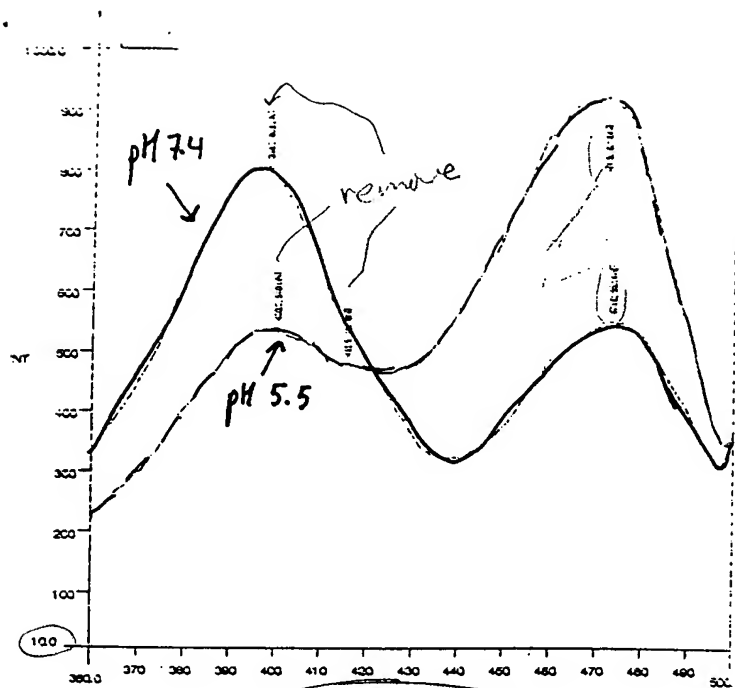
Fig 9E



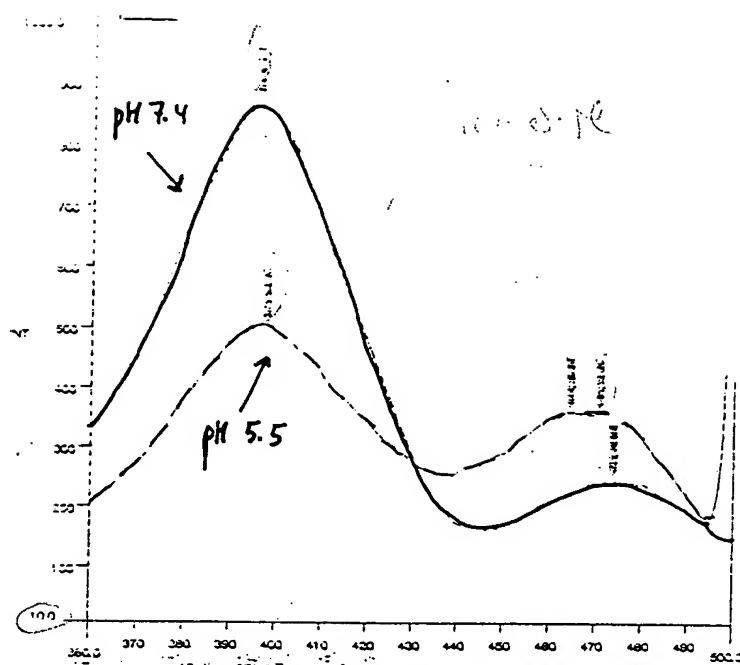
clone 19E10

Fig 9F

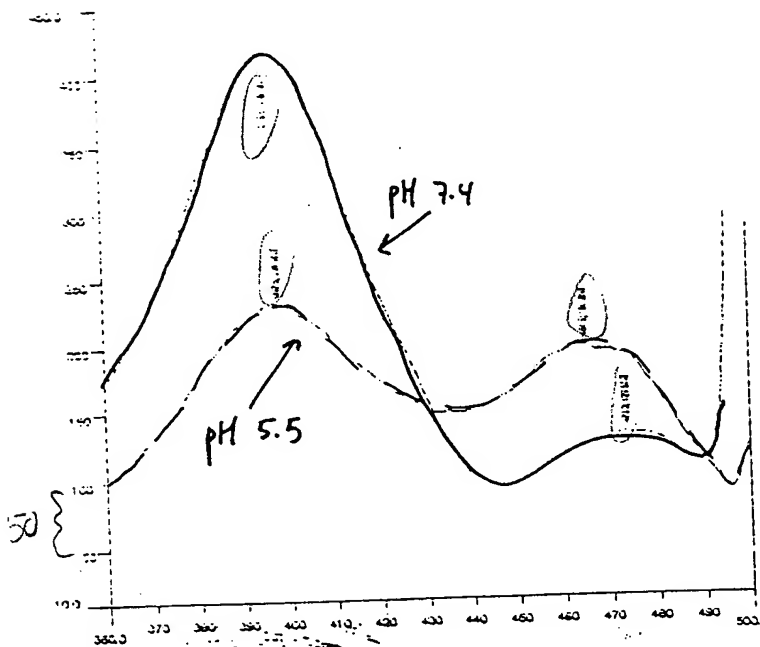
FIG. 9E-9F



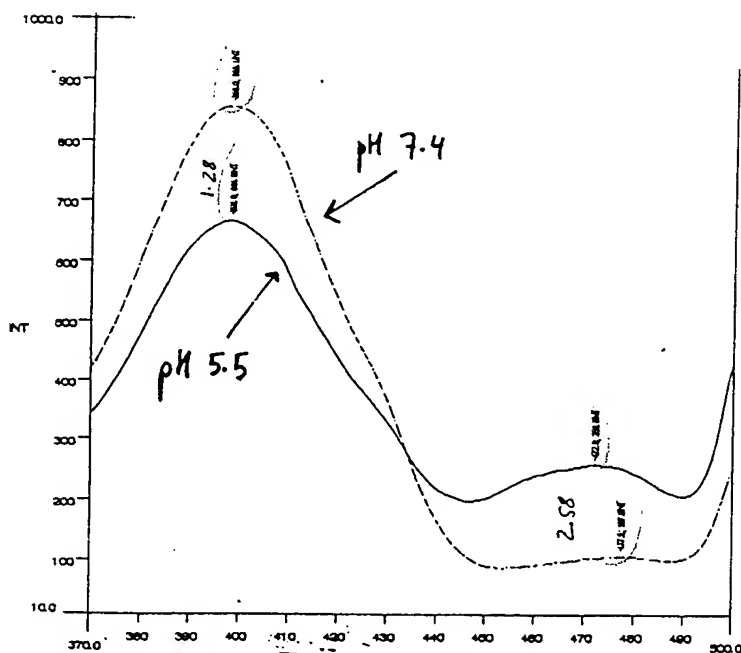
clone 14E12
Fig. 10A



clone 14C9
Fig. 10B



clone 14C8
Fig. 10C



clone 2G3
Fig. 10D

FIGS. 10A-10D

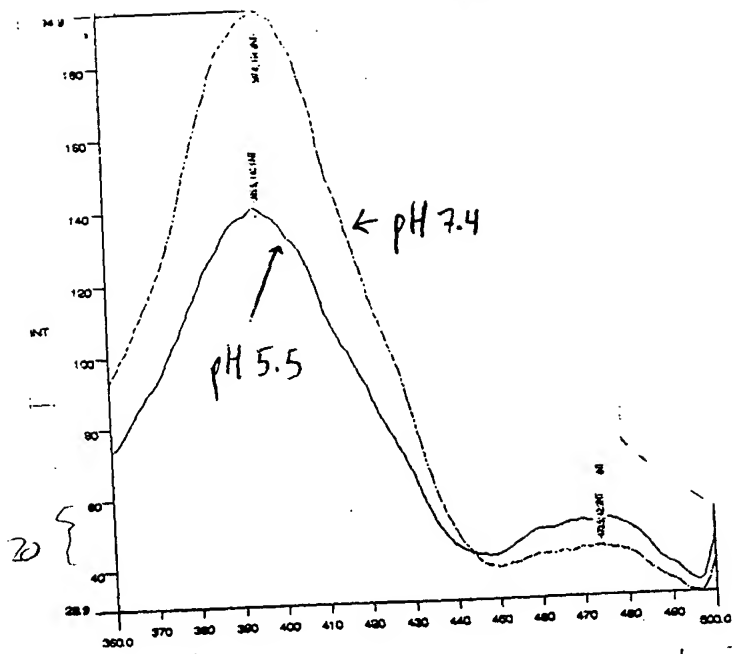


Fig. 10E

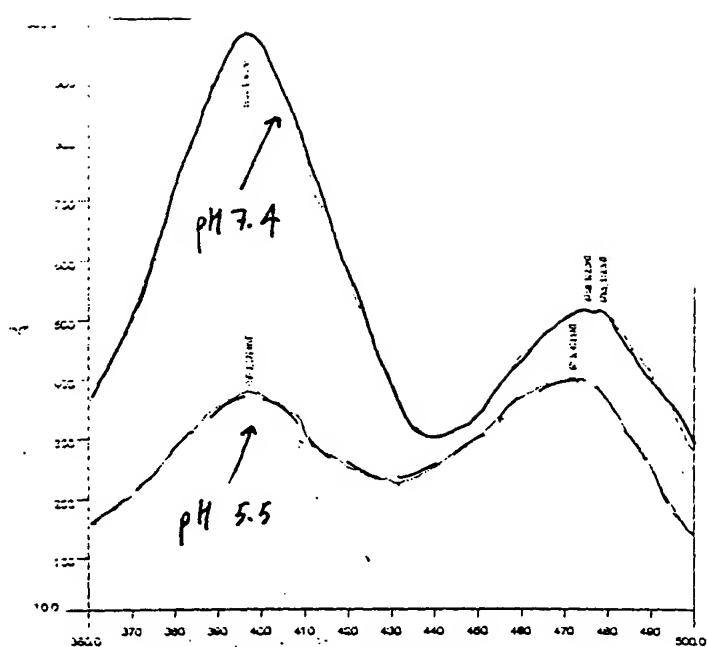


Fig. 10F

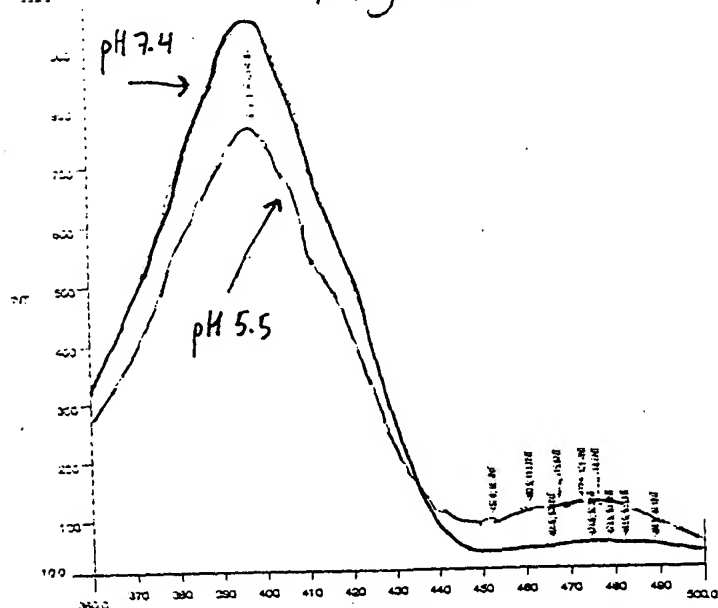


Fig. 10G

FIGS. 10E-10G

1D10

ATGAGTAAAG GAGAAGAACT TTTCAGTGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAAGTTACCC TTAAATTTAT
TTGCACTACT GGAAAGTAC CTGTTCCATG GCCAACACTT GTCAGTACTT TCTCTTATGG TGTTCATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCGAA GGTATGTAC
AGGAAAGAAC TATATTTTTC AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA TCACAATGTG TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGTTA
ACTTCAAAAT TAGACACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 11A

2F10

ATGAGTAAAG GAGAAGAACT TTTCAGTGGG GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAAGTTACCC TTAAATTTAT
TTGCACTACT GGAAAGTAC CTGTTCCATG GCCAACACTT GTCAGTACTT TCTCTTATGG TGTTCATGCG
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTT AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA TCACCATGTG TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGTTA
ACTTCAAAT TAGACACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 11B

2H2

ATGAGTAAAG GAGAAGAACT TTTCACCTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCACACTT TCTCTTATGG TGTTC AATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAC TACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA TCACGTGGTG TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGTTA
ACTTCAAAAT TAGACACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 11C

1B11

ATGAGTAAAG GAGAAGAACT TTTCAGTGGG GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTACCC TTAAATTTAT
TTGCACTACT GGAAAACTAC CTGTTCCATG GCCAACACTT GTCAGTACTT TCTCTTATGG TGTTCAATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA TCACCAGGTG TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGTTA
ACTTCAAAT TAGACACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 11D

8F6

ATGAGTAAAG GAGAAGAACT TTTCACCTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCACACTT TCTCTTATGG TGTTCATGTC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAACACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA TCACACTGTG TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGTTA
ACTTCAAAAT TAGACACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 11E

19E10

ATGAGTAAAG GAGAAGAACT TTCTACTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCACTACTT TCTCTTATGG TGTTC AATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAC TACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATTG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAGTACA ACTATAACGA TCACTTGGTG TACATCATGG CAGACAAACA AAAGAATGGT ACCAAAAGTTA
ACTTTCAAGT TCACCACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 11F

14E12

ATGAGTAAAG GAGAAGAACT TTCTACTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTTACCC TTAAATTTAT
TTGCACTACT GGAAAACTAC CTGTTCCATG GCCAACACTT GTCACACTT TCTCTTATGG TGTTCATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAACACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATTG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAGTACA ACTATAACGA TCACGATGTG TACATCATGG CAGACAAACA AAAGAATGGT ACCAAAGTTA
ACTTTCAAGT TCGCCACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 12A

14C9

ATGAGTAAAG GAGAAGAACT TTTCACCTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAAGTTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCACACTT TCTCTTATGG TGTTCAATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATTG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAGTACA ACTATAACGA TCACCTGGTG TACATCATGG CAGACAAACA AAAGAATGGT ACCAAAGTTA
ACTTTCAAGT TCGCCACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 12B

14C8

ATGAGTAAAG GAGAAGAACT TTTCCTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCCTACTT TCTCTTATGG TGTTCATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTC AAAGATGACG GGAACACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATTG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAGTACA ACTATAACCC TCACTATGTG TACATCATGG CAGACAAACA AAAGAATGGT ACCAAAGTTA
ACTTTCAAGT TCACCACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 12C

ATGAGTAAAG GAGAAGAACT TTCTACTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTACCC TTAAATTTAT
TTGCACTACT GGAAAACTAC CTGTTCCATG GCCAACACTT GTCACTACTT TCTCTTATGG TGTTC AATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAC TACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA GCACTTGGTG TACATCATGG CAGACAAACA AAAGAATGGT ACCAAAGCTA
ACTTTAAAAT TCACCACAAC ATTGAAGATG GAGGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 12D

S202H

ATGAGTAAAG GAGAAGAACT TTTCAGTGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCAGTACTT TCTCTTATGG TGTTCATGTC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACTC ACACAATGTA TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGTTA
ACTTCAAAAT TAGACACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 12E

14D9

ATGAGTAAAG GAGAAGAACT TTTCAGTGA GTTGTCCCA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAAGTTACCC TTAAATTTAT
TTGCACTACT GGAAAACTAC CTGTTCCATG GCCAACACTT GTCAGTACTT TCTCTTATGG TGTTCATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATTG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAGTACA ACTATAACCC TCACTGGGTG TACATCATGG CAGACAAACA AAAGAATGGT ACCAAAGTTA
ACTTTCAAGT TCACCACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
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ATGAACTATA CAAATAA

FIGURE 12F

8H8

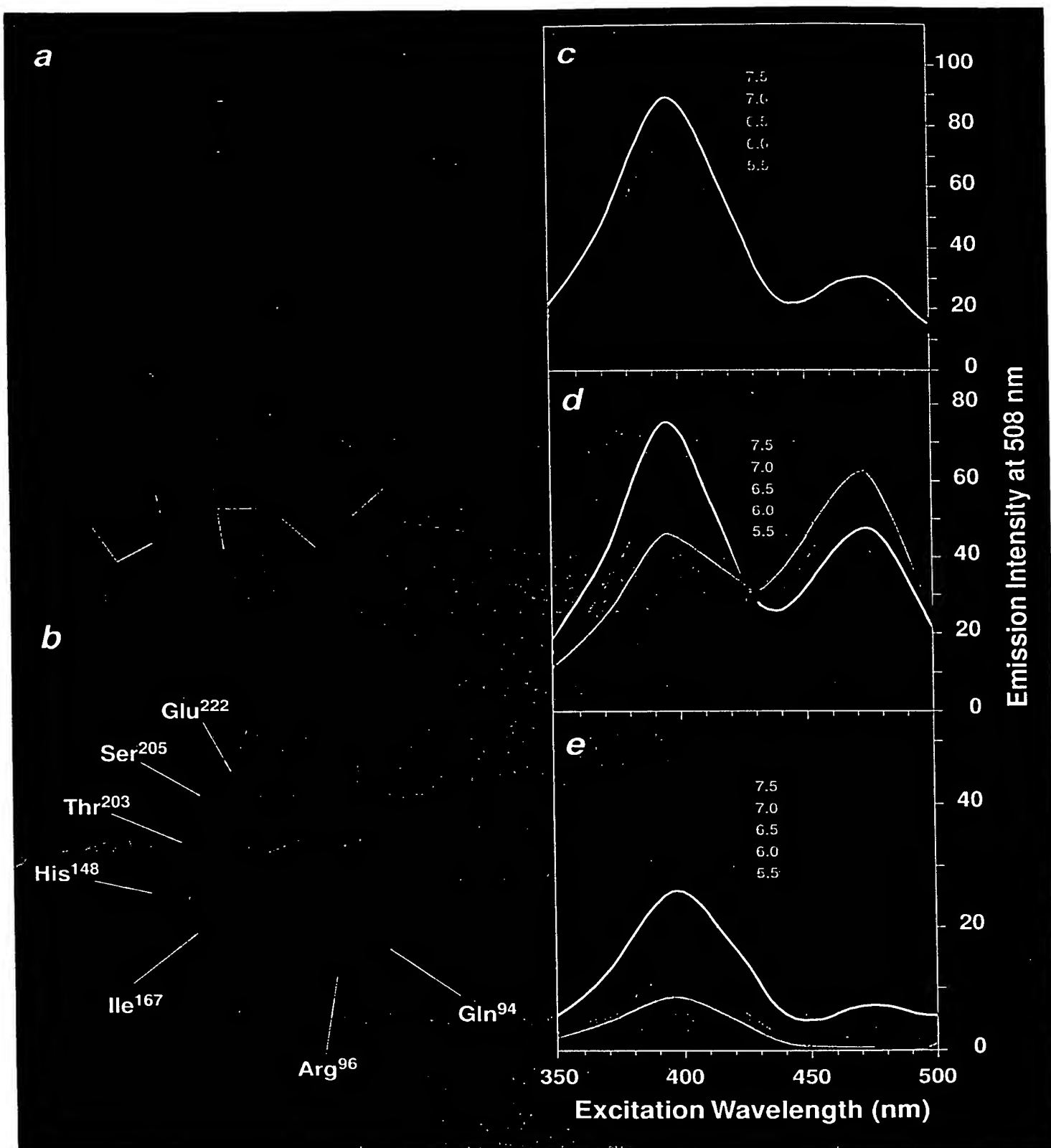
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GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAAGTTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCACTACTT TCTCTTATGG TGTTCATGTC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACCC TCACTGGGTG TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGTTA
ACTTCAAAAT TAGACACAAC ATTGAAGATG GAAGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 12G

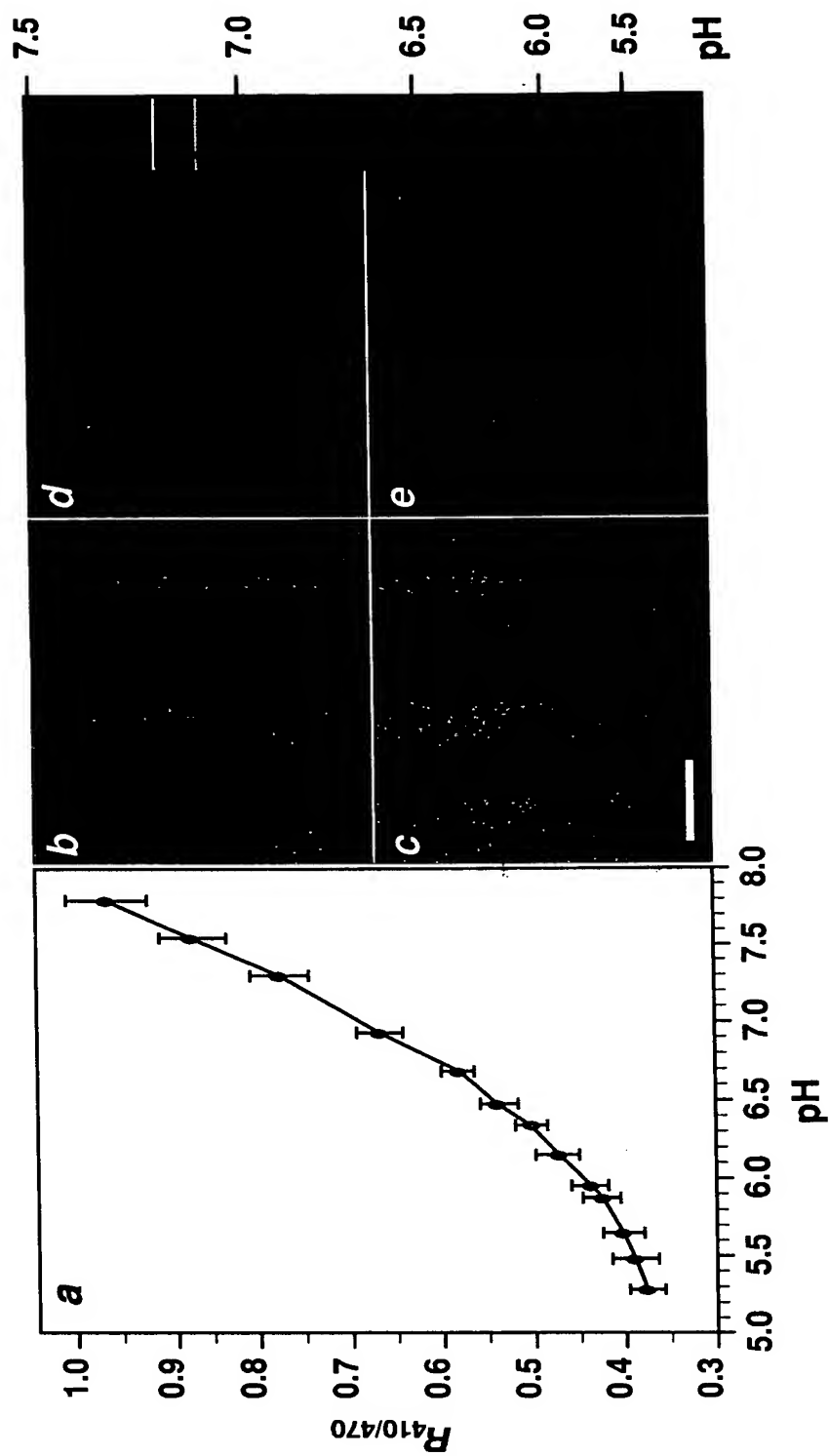
Cypridina luciferase

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CACAGTCATC GAATTCTTTA AACTAATCGT GATTGATATT CTGGGAGGAA GATCTGTGAG AATTGCTCCA
GACACAGCAA ACAAAGGACT GATATCTGGT ATCTGTGGTA ATCTGGAGAT GAATGACGCT GATGACTTTA
CTACAGACGC AGATCAGCTG GCGATCCAAC CCAACATAAA CAAAGAGTTC GACGGCTGCC CATTCTATGG
GAATCCTTCT GATATCGAAT ACTGCAAAGG TCTCATGGAG CCATACAGAG CTGTATGTGCG TAACAATATC
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TTTCTATGAC ACATTCGACA AAGCCAGATA TCAATTCCAG GGCCCATGCA AAGAGCTTCT GATGGCCGCA
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ATCCATTGCA TGGAAAGACA TCGGCATAT GTGGTAACTA TAATCAAGAT TCAACTGATG ATTTCTTTGA
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CGACTCTGCA ATAGTCTATT TGATAGTTCT ATCGACGAGA AATGTAATGT CTGCTACAAG CCGGACCGTA
TTGCCCGATG TATGTACGAG TATTGCCTGA GGGGACAGCA AGGATTCTGT GACCATGCTT GGGAGTTCAA
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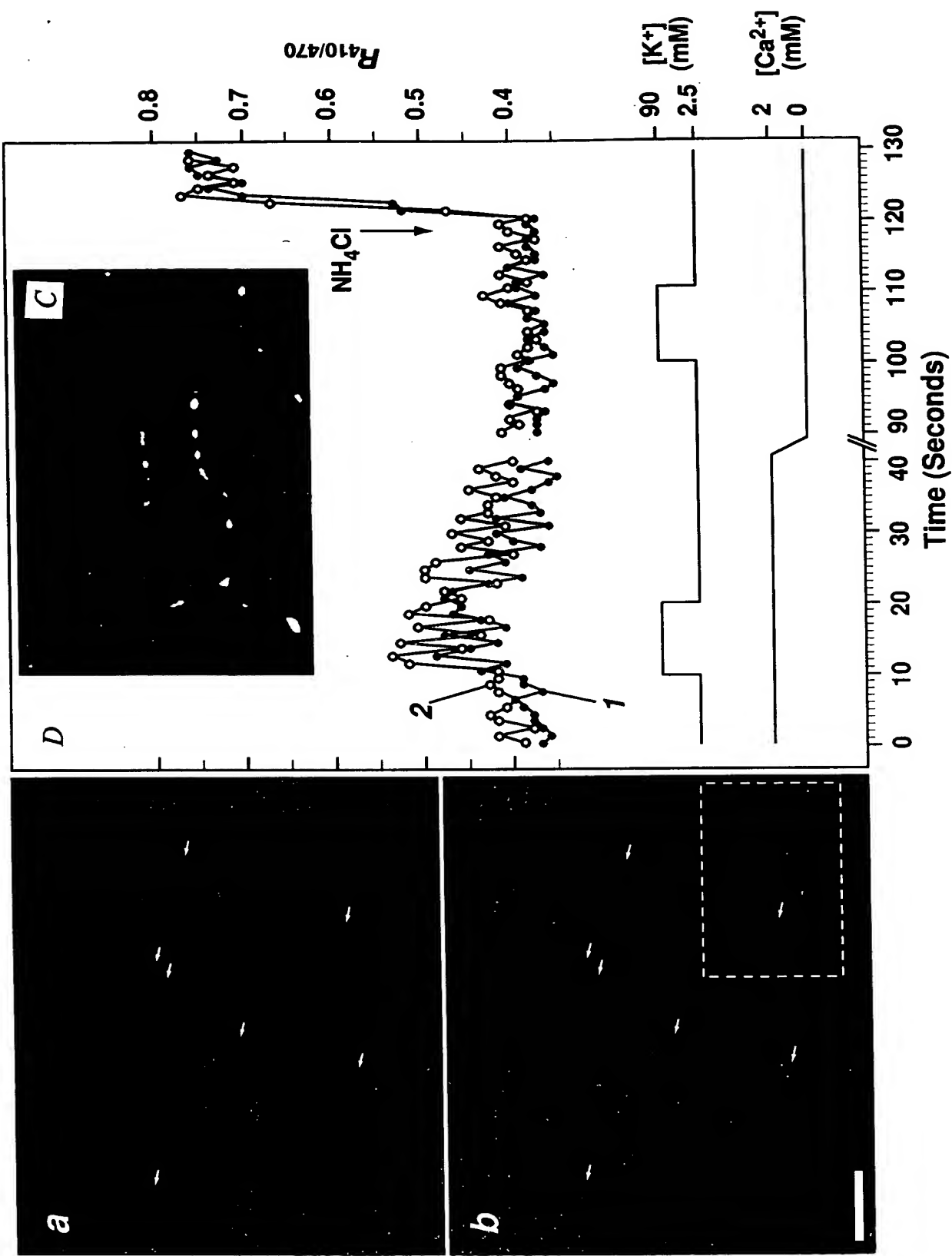
FIGURE 13



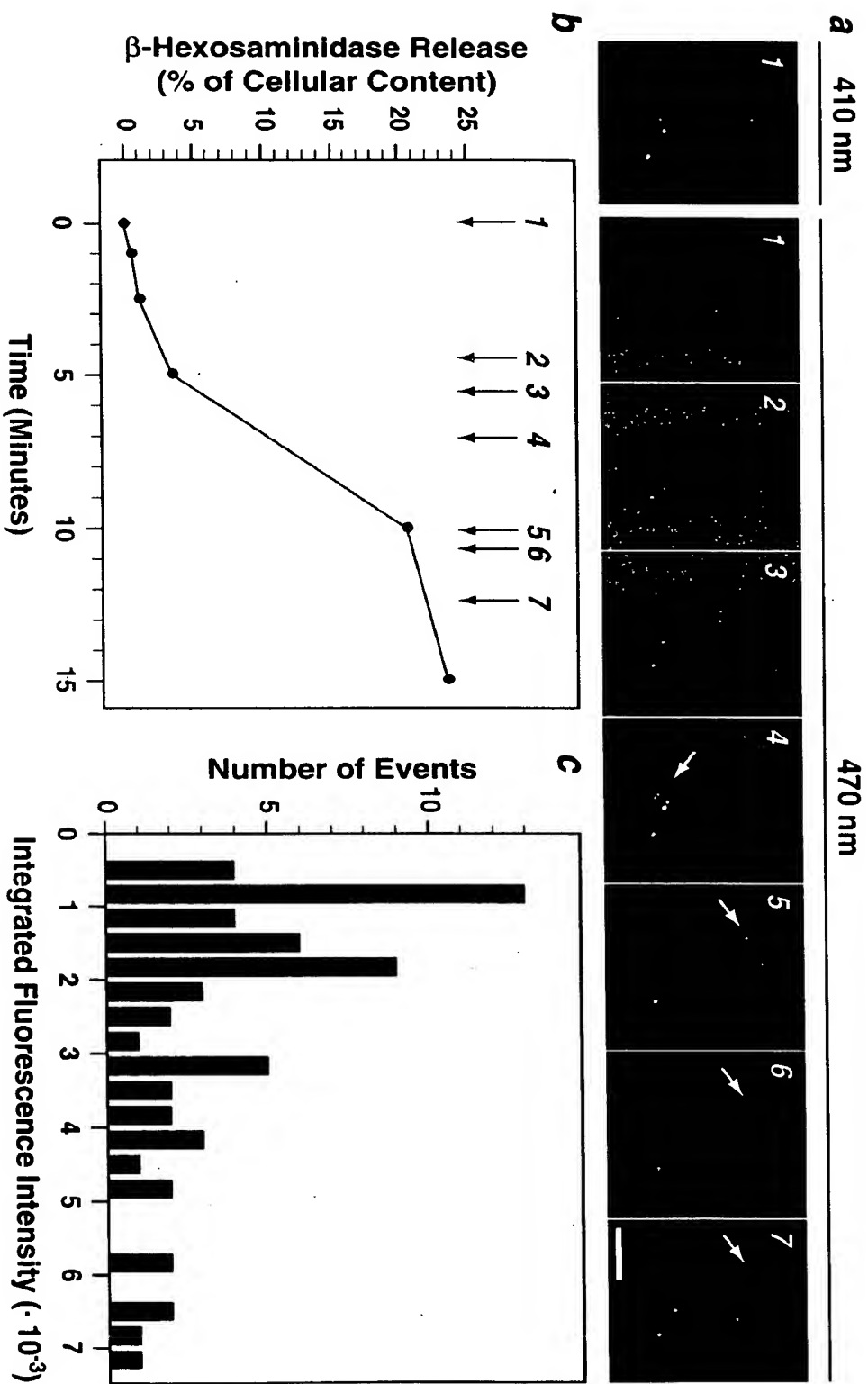
FIGS. 14A-14E



FIGS. 15A-15E



FIGS. 16A-16D



FIGS. 17A-17C

ATGATTAAAG GAGAAGAACT TTCTACTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAAGTTACCC TTAAATTTAT
TTGCACTACT GGAAACTAC CTGTTCCATG GCCAACACTT GTCACTACTT TCTCTTATGG TGTTC AATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCGAA GGTTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAGTACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGATGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA GCACTTGGTG TACATCATGG CAGACAAACA AAAGAATGGT ACCAAAGCTA
TCTTTCAAGT TCACCACAAC ATTGAAGATG GAGGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGCCCTGTCC TTTTACCAGA CAACCATTAC CTGCACACAC AATCTGCCCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCTTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAAGTNTA CAAATAA

FIGURE 18

pC6

1	MIKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDDFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KDDGNILGHK	LEYNNEHLV	YIMADKQKNG	TKAIFQVHHN	IEDGGVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHMF	LEFVTAAGIT	HGMDEVYK.	239

FIGURE 19

8F3

ATGAGTAAAG GAGAAGAACT TTTCACCTGGA GTTGTCCCAA TTCTTGTTGA ATTAGATGGT GATGTTAATG
GGCACAAATT TTCTGTCAGT GGAGAGGGTG AAGGTGATGC AACATACGGA AAACCTACCC TTAAATTTAT
TTGCACTACT GGAAAACTAC CTGTTCCATG GCCAACACTT GTCACACTT TCTCTTATGG TGTTC AATGC
TTTTCAAGAT ACCCAGATCA TATGAAACGG CATGACTTTT TCAAGAGTGC CATGCCCGAA GGTATGTAC
AGGAAAGAAC TATATTTTTTC AAAGATGACG GGAAC TACAA GACACGTGCT GAAGTCAAGT TTGAAGGTGA
TACCCTTGTT AATAGAATCG AGTTAAAAGG TATTGATTTT AAAGAAGATG GAAACATTCT TGGACACAAA
TTGGAATACA ACTATAACGA TCACCAGGTG TACATCATGG CAGACAAACA AAAGAATGGA ATCAAAGCTA
ACTTCAAAAT TAGACACAAC ATTGAAGATG GAGGCGTTCA ACTAGCAGAC CATTATCAAC AAAATACTCC
AATTGGCGAT GGGCCCGTCC TTTTACCAGA CAACCATTAC CTGTTTACAA CTTCTACTCT TTCGAAAGAT
CCCAACGAAA AGAGAGACCA CATGGTCCTT CTTGAGTTTG TAACAGCTGC TGGGATTACA CATGGCATGG
ATGAACTATA CAAATAA

FIGURE 20

p8F3

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNHQQV	YIMADKQKNG	IKANFKIRHN	IEDGGVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LFTTSTLSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 21

p1B11t

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFsyGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNDHqv	YIMADKQKNG	IKANFKIRHN	IEDGGVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 22

p14E12t

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDDFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNDHDV	YIMADKQKNG	TKANFQVRHN	IEDGGVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 23

p1D10

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDDFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNDHNV	YIMADKQKNG	IKVNFKIRHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDMVL	LEFVTAAGIT	HGMDELYK.	239

FIGURE 24

p2F10

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNDHHV	YIMADKQKNG	IKVNFKIRHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 25

p2H2

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNHVV	YIMADKQKNG	IKVNFKIRHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 26

p1B11

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDDFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNHDHV	YIMADKQKNG	IKVNFKIRHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 27

p8F6

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1  MSKGEELFTG VVPILVELDG DVNGHKFSVS GEGEGDATYG KLTLKFICTT GKLPVPWPTL 60
61 VTTFSYGVQC FSRYPDHMKR HDFFKSAMPE GYVQERTIFF KDDGNYKTRA EVKFEGDTLV 120
121 NRIELKGIDF KEDGNILGHK LEYNYNDHTV YIMADKQKNG IKVNFKIRHN IEDGSVQLAD 180
181 HYQQNTPIGD GPVLLPDNHY LHTQSALSKD PNEKRDHMLV LEFVTAAGIT HGMDELYK. 239
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FIGURE 28

p19E10

1	MSKGÉELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNDHLV	YIMADKQKNG	TKVNFQVHHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 29

p14E12

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNDHDV	YIMADKQKNG	TKVNFQVRHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 30

p14C9

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNDHLV	YIMADKQKNG	TKVNFQVRHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 31

P14c8 1

MSKGEELFTG	VPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
VTTFsyGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
NRIELKGIDF	KEDGNILGHK	LEYNYNPHYV	YIMADKQKNG	TKVNFQVHHN	IEDGSVQLAD	180
HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK	

FIGURE 32

p2G3

1	MSKGÉELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDDFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNEHLV	YIMADKQKNG	TKANFKIHHN	IEDGGVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 33

pS202H

1	MSKGEELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYNSHNV	YIMADKQKNG	IKVNFKIRHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 34

p8H8

1	MSKGÉELFTG	VVPILVELDG	DVNGHKFSVS	GEGEGDATYG	KLTLKFICTT	GKLPVPWPTL	60
61	VTTFSYGVQC	FSRYPDHMKR	HDFFKSAMPE	GYVQERTIFF	KDDGNYKTRA	EVKFEGDTLV	120
121	NRIELKGIDF	KEDGNILGHK	LEYNYPHWV	YIMADKQKNG	IKVNFKIRHN	IEDGSVQLAD	180
181	HYQQNTPIGD	GPVLLPDNHY	LHTQSALSKD	PNEKRDHML	LEFVTAAGIT	HGMDELYK.	239

FIGURE 35